Jinnah Medical & Dental College

EYE

Study Guide

Ophthalmology

MBBS

2021-22

There is nothing

more important than

our good health!

Team Members of the Study guide
2021

Name	Committee	Department
Dr. Amir Hussain	Member	EYE
Dr. Fawad Rizvi	Member	EYE
Dr. Zeelaf Shahid Associate Director	Member	Medical Education

Introduction

A very warm welcome to medical students in the Eye posting**.** Pakistan, the 7th most populous country in the world, has an urban population of 38.8% and rural dwellers of 61.2%. The country has faced challenges with vision impairment and blindness as key elements of the overall health status. The International Agency for the Prevention of Blindness (IABP) has reported that 7.6 million people in Pakistan are visually impaired and of those, 1.2 million were blind. The Fred Hollows Foundation (FHF) estimated that about 10% (18 million) of the Pakistani population was living with some sort of visual impairment and around 2 million individuals were living with blindness. A 2006 study estimated the crude prevalence of blindness among Pakistanis older than 30 years to be 2.7%, and among all ages, 0.9%. Total numbers of blind were approximated to be between1.1 – 1.35 million) with a projected total reaching 2.4 million in 2020. There has been extensive work undertaken by the government of Pakistan by including eye health services at a district level. Considering the serious nature of the situation in Pakistan, it becomes imperative that Ophthalmic conditions receive a fair share of inclusion in the MBBS curriculum. The Ophthalmology course, along with the rotations, aims to produce graduate capable of dealing with common eye related conditions in tertiary and primary health care settings. The long-term goal is to contribute to the national provision of health care providers who can take part in the reduction of blindness and visual impairment among the population.

This clinical rotation has been developed to impart integrated teaching as a part of curriculum in Jinnah Medical and Dental College, Karachi.

Rationale

Before moving on to complex clinical issues, it becomes imperative for the students to achieve clear concepts of the basic organization of Eye. This posting is designed to cover the detailed examination of the eye, providing patient centered approach or diagnosis and management of common clinical presentations. Concepts acquired during this clinical posting will be revisited in all other subsequent postings of the undergraduate course.

Abbreviations

EOM	End of Module
WT	Ward Test
R	Rotation
LGIS	Large group Interactive session
CBD	Case Based Discussion
OPD	Out Patient Department
K	Knowledge
S	Skill
A	Attitude
MCQ	Multiple Choice Question
OSCE	Objective Structured Clinical Examination
Mini CEX	Mini Clinical Evaluation Exercises
DOPS	Direct Observation of Procedural Skills

General Learning Objectives

By the end of the OPHTHALMOLOGY module and rotation, students must be able to:

- Manage common, uncomplicated ophthalmologic conditions in emergency and non-emergency situations
- Demonstrate common clinical skills related to Ophthalmology in simulated and / or real environment
- Jjustify diagnosis of ophthalmological conditions based on basic science knowledge
- Demonstrate professional behaviour consistently

JMDC CURRICULUM FRAMEWORK: MBBS 1-5 YEARS

Year													
Year 1	**Module 1**	**EOM**	**Module 2**	**EOM**	**Module 3**	**EOM**	**Module 4**	**EOM**	**Module 5**	**EOM**	**Module 6**	**EOM* End of Exam**	**Final Exam**
	Foundation-1 8 weeks		Blood-1 4 weeks		Locomotor-1 8 weeks		Respiratory-1 4 weeks		CVS-1 4 weeks		GIT-1 4 weeks		
2	**Module 7**	**EOM**	**Module 8**	**EOM**	**Module 9**	**EOM**	**Module 10**	**EOM**	**Module 11**	**EOM**	**Module 12**	**EOM**	
	Head & Neck-1 5 weeks		Neurosciences-1 7 weeks		Special Senses 3 weeks		Endocrine-1 5 weeks		Reproductive-1 4weeks		Urinary-1 5weeks		
3	**Module 13**	**EOM**	**Module14**	**EOM**	**Module15**	**EOM**	**Module16**	**EOM**	**Module17**	**EOM**	**Module 18**	**EOM**	
	Foundation 2 10 weeks		Blood-2 5weeks		Locomotor-2 4 weeks		Respiratory-2 4 weeks		CVS-2 5 weeks		GIT-2 7weeks		

Clinical Rotations (Each Batch) — **WT* = Ward test**

R 1	**Medicine 2 weeks**	**WT**	**Psychiatry 2weeks**	**WT**	**Surgery 2 weeks**	**WT**	**Orthopedics 2 weeks**	**WT**	**OBS/ GYN 2 weeks**	**WT**	**Pediatrics 2 weeks**	**WT**	**Eye 2 weeks**	**WT**	**Ent 3 weeks**	**WT**
R2	**Medicine 2 weeks**		**Psychiatry 2weks**		**Surgery 2 weeks**		**Orthopedics 2weeks**		**OBS/ GYN 2 weeks**		**Pediatrics 2 weeks**		**Eye 2 weeks**		**Ent 3 weeks**	

4	**Module 19**	**EOM**	**Module 20**	**EOM**	**Module 21**	**EOM**	**Module 22**	**EOM**	**Module 23**	**EOM**	**Module 24**	**EOM**	**Lectures**
	Orthopedics 7 weeks		**Reproductive-2 7 weeks**		**Neuroscience-2 9 weeks**		**Genetics 1 week**		**Dermatology 2 weeks**		**Rehabilitation 2 weeks**		**ENT/ EYE**

Clinical Rotations (Each Batch)

R 1	**Medicine 3 weeks**	**WT**	**Psychiatry 3 weeks**	**WT**	**Surgery 3 weeks**	**WT**	**Orthopedics 3 weeks**	**WT**	**OBS/ GYN 3 weeks**	**WT**	**Pediatrics 3 weeks**	**WT**	**Eye 3 weeks**	**WT**	**Ent 3 weeks**	**WT**
R2	**Medicine 3weeks**	**WT**	**Surgery 3weeks**	**WT**	**Eye 3weeks**	**WT**	**Ent 3weeks**	**WT**								

LECTURES — **R***= Rotation**

5	**Medicine**	**Surgery**	**OBS/Gynae**	**Pediatrics**
	Clinical Rotations			
R 1	**Medicine 4 weeks**	**Surgery 4 weeks**	**OBS/ GYN 4 weeks**	**Pediatrics 4 weeks**
R2	**Medicine 5 weeks**	**Surgery 5 weeks**	**OBS/ GYN 5 weeks**	**Pediatrics 5 weeks**

EYE

Main Content

1. ORBIT & RETIN
2. NORMAL VISION
3. BASAL CELL CARCINOMA,
4. CHOROIDAL MELANOMA,
5. SQUAMOUS CELL CARCINOMA
6. RETINIBLASTOMA
7. ORBIT
8. LIDS
9. CORNEA
10. CONJUNCTIVA
11. SCLERA
12. LACRIMAL APPARATUS
13. UVEAL TRACT
14. LENS
15. GLAUCOMA
16. VITREO-RETINA
17. RETINITIS PIGMENTOSA,
18. RETINOBLASTOMA
19. AGE RELATED MACULAR
20. OPTIC NERVE
21. VISUAL PATHWAY
22. INJURIES
23. SQUINT
24. AMBLYOPIA
25. ERRORS OF REFRACTION
26. SYSTEMIC DISEASES
27. BLINDNESS

MAIN CONTENT AREAS

Competencies assessed in this module

K=Knowledge

S=Skill

A=Attitude

Teaching / Learning Methods

The teaching learning sessions of this module will be of diverse types:

a. Large group interactive sessions (LGIS)
b. Small group teaching will include tutorials and, case – based learning session.
c. Problem – based learning sessions.
d. Practical session will comprise sessions on early exposure to clinical methods and practical laboratory demonstrations.
e. Seminars: on different topics, in which students will make oral presentations on different aspects of the allocated topic.
f. Self-directed learning sessions: This is the time during which students are expected to revise what they have learnt in the class, clear their concepts by consulting different textbooks, reference material and prepare their assignments and projects.

Students Assessment

There will be an end of rotation ward test after completion of clinical posting which will comprise the following components: -

i. Written Assessment

The theory paper will have components of one – best type multiple – choice questions (MCQs).

ii. Practical / lab examination:

This will comprise Objective Structured Clinical Examination (OSCE) The OSCE will have both observed and non-observed stations. The end of clinical posting will be of 2 hours duration. This will comprise the following components:

The OSPE/ OSCE will be conducted in batches. The students will be having different patterns of OSPE/OSCE in the subjects of otolaryngology.

Summary of marks of each module exam

Theory (BCQs) = 100 marks

OSPE (10 stations) = 100 marks

Total = 200 marks

Internal Assessment:

• Continuous monitoring of attendance and practical assessment in short groups By Mini CEX and logbooks.

• It may be in the form of MCQs (BCQs), Ward tests, and OSCE.

• Internal assessment carries 20% weightage

Course Evaluation:

Course evaluation will be obtained through a feedback form which will be posted on the JMC website

Mandatory Policy:

Eligibility for sitting in Professional Examinations is as follows:

- 75% overall Class Attendance
- 75% Attendance all Clinical Wards with passing marks in all Clinical Ward Tests.
- Minimum 40% aggregate marks on all Internal Examinations (Module Tests, Midterm, Pre-Professional Examinations)
- MBBS 1stYear: Complete all Professional Communication assignments with passing marks
- MBBS 1st& 2ndYear: Obtain passing marks in Behavioral Sciences & Research Module assessments
- MBBS 2ndYear: Presentation in Journal club at least twice in a year
- MBBS 4th& Final Year: CPC Presentation at least once in a year
- Skills Labs: Must be completed with passing marks
- Research Paper must be completed before MBBS 4 Professional Examination

Failure to Meet the Eligibility Requirements:

- A Student failing to meet the above listed eligibility for sitting in the professional examination will NOT be allowed to sit in 1st attempt of the Professional Examination.
  The college has the right to withhold all students who however, not met the eligibility requirements from sitting in the 1st attempt.
- Such students who have been withheld from sitting in the 1st attempt of the Professional exam because of failure to meet the eligibility requirements will be allowed only to sit in the retake of that examination.
  It is expected that deficiency in requirements of Professional communication assignments, Behavioral Sciences & Research Module assessments, journal Club presentations, CPC, Skills Labs must be made up and fulfilled before a student will allowed to sit in the retake exam.

Details of ATTENDANCE POLICY

The CR is responsible to bring attendance sheets from Student Affairs Office to each class. At the end of class, the attendance sheet must be signed and returned by the faculty member to the Student Affairs Office. No attendance sheets from students will be accepted.

These attendances will be compiled together as follows:

LECTURE ATTENDANCE = # Lectures Attended / Total # of Lectures
PRACTICAL ATTENDANCE = # Practicals Attended / Total # of Practicals
TUTORIAL ATTENDANCE = # Tutorials Attended / Total # of Tutorials

NOTE: All tutorials will be conducted by a Senior Faculty Member (AP or above), assisted by a Junior Faculty Member (Lecturer)

FINAL CLASS ATTENDANCE =

%Lecture Attendance + %Tutorial Attendance + %Practical Attendance
3

Recommended Reading Material

ANATOMY

A. GROSSANATOMY

1. K.L. Moore, Clinically Oriented Anatomy

B. EMBRYOLOGY.

1. Keith L. Moore. The Developing Human
2. Langman's Medical Embryology

COMMUNITY MEDICINE TEXT BOOKS

1. Community Medicine by Parikh
2. Community Medicine by M Ilyas
3. Basic Statistics for the Health Sciences by Jan W Kuzma

OPHTHALMOLOGY TEXT BOOK

Vaughan & Asbury's General Ophthalmology, 18th Edition

WEBSITE:

https://timroot.com/

PATHOLOGY/ MICROBIOLOGY TEXT BOOKS

1. Robbins & Cotran, Pathologic Basis of Disease, 9thedition.
2. Rapid Review Path' olo2y, 4th edition by Edward F. Goljan MD

WEBSITES:

1. http://library.med.utah.edu/WebPath/webpath.html
2. http://www.pathologyatlas.ro/

PHYSIOLOGY A. TEXTBOOKS

1. Textbook of Medical Physiology by Guyton And Hall
2. Ganong ' S Review of Medical Physiology
3. Human Physiology by Lauralee Sherwood
4. Berne & Levy Physiology
5. Best & Taylor Physiological Basis of Medical Practice

EYE

Organization

Time requirements:

Lectures

4th year= 32 hours

Clinical Rotations

3rd year= 96 hours

4th year= 144 hours

Total = 272 hours

ENT

3rd year

Clinical rotations

EYE Clinical Rotations

Sr. No.	LEARNING OBJECTIVES By the end of Ophthalmology module students should be able to:	CONTENT	LEARNING ACTIVITIES	ASSESSMENT
1.	• Describe the functional anatomy of the orbit and the globe along with relevant nerve and blood; • Discuss the embryology and histology of Retina **(K)**	**ORBIT & RETINA**	LGIS 50 mins	MCQs
2.	• Describe the process of normal vision, optics and the reflexes seen in normal eye **(K)**	**NORMAL VISION**	LGIS 50 mins	MCQs
3.	• Explain the pathology of the tumors involving eye including Basal Cell Carcinoma, Choroidal Melanoma, Squamous Cell Carcinoma and Retinoblastoma **(K)**	**BASAL CELL CARCINOMA, CHOROIDAL MELANOMA, SQUAMOUS CELL CARCINOMA & RETINIBLASTOMA**	LGIS 50 mins	MCQs
4.	• Diagnose Orbital cellulitis and Proptosis based on clinical features, pathophysiology and relevant investigations • Develop treatment plans for Cellulitis and Proptosis **(K)**	**ORBIT**	SGD (PBL) 50 mins	MCQs

S. No.	LEARNING OBJECTIVES By the end of Ophthalmology module students should be able to	CONTENT	LEARNING ACTIVITIES	ASSESSMENT
5.	• Diagnose the following on the basis clinical findings, pathology and their investigations: o Blepharitis o Sty oChalazion oTrichiasis oEntropion oEctropion oPtosis • Explain the differential diagnosis and treatment plans for the above-mentioned conditions Develop treatment plans for Basal cell, Squamous cell, Sebaceous carcinoma and Melanoma • Describe clinical features for diagnosis of Nevus and Papilloma **(K)**	**LIDS**	SGD (P B L) + Presentation 50 mins	MCQs
6.	• Explain common corneal pathologies • Diagnose the corneal trauma, infections, vitamin A deficiency and Keratoconus on the basis of clinical findings, pathophysiology and relevant investigations • Explain the differential diagnosis and treatment plans for the corneal trauma, infections, vitamin A deficiency and Keratoconus **(K)**	**CORNEA**	LGIS 50 mins	MCQs

S. No.	LEARNING OBJECTIVES By the end of Ophthalmology module students should be able to:	CONTENT	LEAING ACTIVIRNTIES (Duration)	ASSESSMENT
7.	• Diagnose Infective conjunctivitis, Allergic conjunctivitis and Pterygium on the basis clinical sign and symptoms and pathology • Select the relevant investigations for the above-mentioned conditions • Discuss the differential diagnosis and treatment plans for infective conjunctivitis, allergic conjunctivitis and Pterygium **(K)**	**CONJUNCTIVA**	LGIS 50 mins	MCQs
8.	• Diagnose Episcleritis and Scleritis on the basis of clinical findings • Discuss the relevant investigations, differential diagnosis, pathophysiology and treatment plans for Episcleritis **(K)**	**SCLERA**	SGD 50 mins	MCQs
9.	• Diagnose Epiphora, Acute and Chronic Dacryocystitis on the basis of clinical features along with their relevant investigations and pathology • Discuss the differential diagnosis and treatment plans for the Epiphora, Acute and Chronic Dacrocycstitis **(K)**	**LACRIMAL APPARATUS**	SGD (PBL) + Presentation 50 mins	MCQs

S. No.	LEARNING OBJECTIVES By the end of Ophthalmology module students should be able to:	CONTENT	LEARNING ACTIVITIES (Duration)	ASSESSMENT
10.	• Discuss differential diagnosis for red eye along with their etiology, pathology, investigations and treatment plans. • Diagnose Uveitis on the basis of clinical features and relevant investigations. • Discuss the differential diagnosis and treatment plans for Uveitis. **(K)**	**UVEAL TRACT**	LGIS 50 mins + SGD 50 mins	MCQs
11.	• Classify cataract • Describe cataract due to systemic diseases • Explain the symptoms, signs, investigations and management plan for congenital cataract • Diagnose acquired cataract based on symptoms, signs, pathophysiology and investigation findings • Justify selection of treatment options for acquired cataract • Explain congenital cataract secondary to rubella **(K) (S) (A)**	**LENS**	LGIS 50 mins + Demonstration 90 min	MCQs + OSCE

S. No.	LEARNING OBJECTIVES By the end of Ophthalmology (Eye) module students should be able to:	CONTENT	LEARNING ACTIVITIES (Duration)	ASSESSMENT
12.	• Define Glaucoma • Classify glaucoma • Discuss the anatomy related to glaucoma • Discuss the etiology, pathophysiology, differential diagnosis and investigations for Glaucoma • Diagnose angle closure Glaucoma based on clinical findings • Discuss the treatment plans for angle closure glaucoma • Discuss the treatment plans for Glaucoma other than angle closure **(K)**	**GLAUCOMA**	LGIS 50 mins	MCQs
13.	• Examine the fundus with the help of ophthalmoscope • Explain the signs, symptoms investigations and principles of management for posterior vitreous hemorrhage and Rhegmatogenous Retinal Detachment (RRD) • Discuss the retinal vascular diseases including central retinal vein occlusion (CRVO) and Central retinal artery occlusion (CRVA) • Discuss the differential diagnosis, complications and treatment plans for CRVO/CRVA **(K)**	**VITREO-RETINA**	LGIS 50 mins + SGD (SKILL LAB + CBL) Presentation	MCQs MCQs

S. No.	LEARNING OBJECTIVES By the end of Ophthalmology module students should be able to:	CONTENT	LEAING ACTIVIRNTIES	ASSESSMENT
	• Discuss the clinical presentations, investigations and treatment options for Retinitis Pigmentosa, Retinoblastoma and Age-Related Macular Degeneration (ARMD) • Discuss thepathology and clinical sign and symptoms of retinopathy of prematurity (ROP) along with the relevant investigation • Discuss the complications and treatment plans for the ROP **(K) (S) (A)**	**RETINITIS PIGMENTOSA, RETINOBLASTOMA AND AGE RELATED MACULAR**	LGIS 50 mins + SGD 50 mins	MCQs MCQs + OSCE
14.	• Discuss the differential diagnosis, pathology, provisional diagnosis, and investigations for Papilledema, Optic Neuritis and Optic Atrophy • Formulate the treatment plans for Papilledema, Optic Neuritis and Optic Atrophy **(K)**	**OPTIC NERVE**	LGIS 50 mins	MCQs
15.	• Discuss the effects of lesions in the optic chiasma and visual pathway on visual field **(K)**	**VISUAL PATHWAY**	Short Group Problem Based Discussion 50 mins	MCQs

S. No.	LEARNING OBJECTIVES By the end of Ophthalmology module students should be able to:	CONTENT AREA	LEARNING ACTIVITIES	ASSESSMENT
16.	• Classify injuries to the eye based on etiology • Describe management plan for extra-ocular corneal and conjunctival foreign bodies • Discuss the management plans for ocular burns and chemical injuries • Develop management plans for all other types of injuries to the eye **(K)**	**INJURIES**	LGIS 50 mins	MCQs
17.	• Define Squint and Amblyopia • Discuss the relationship between squint and amblyopia • Discuss the clinical presentation of squint and amblyopia along with their differential diagnosis and relevant investigations • Discuss principles of management for these two conditions **(K)**	**SQUINT AND AMBLYOPIA**	SGD 50mins + Presentation 50 mins	MCQs
18.	• Define Emmetropia, Myopia, Hypermetropia, Astigmatism, Presbyopia, Aphakia, Pseudophakia and Anisometropia • Discuss the etiology and corrective measures for each type of error of refraction including the principals involved, use and procedure of pin hole test **(K) (S) (A)**	**ERRORS OF REFRACTION**	LGIS 50 mins + Demonstrations 90 mins	MCQs + OSCE

S. No.	LEARNING OBJECTIVES By the end of Ophthalmology module students should be able to:	CONTENT	LEARNING ACTIVITIES (Duration)	ASSESSMENT
19.	• Discuss the effects of diabetes mellitus and hypertension eye and vision • Based on data provided, diagnose diabetic and hypertensive retinopathy • Discuss the pathophysiology of diabetic and hypertensive retinopathy • Describe principles of management for the two above mentioned conditions • Based on data provided, justify diagnosis, investigations and treatment plan for ocular conditions due to vitamin A deficiency • Discuss the effects of abnormal thyroid hormone levels on eye and vision • Diagnosis, investigations and treatment plan for conditions due to abnormal thyroid hormone levels (e.g. Grave's disease, Thyroid Ophthalmopathy) **(K) (S) (A)**	**SYSTEMIC DISEASES**	LGIS 50 mins	MCQs + OSCE
20.	• Discuss the six most common causes of blindness worldwide according to WHIO criteria • Discuss etiology, preventive measures and principles of management for blindness **(K)**	**BLINDNESS**	LGIS 50 mins	MCQs

ENT

4TH year

Lectures
&
Clinical Rotations

EYE Clinical Rotations

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1.	• Describe the functional anatomy of the orbit and the globe along with relevant nerve and blood; • Discuss the embryology and histology of Retina **(K)**	**ORBIT & RETINA**	LGIS 50 mins	MCQs
2.	• Describe the process of normal vision, optics and the reflexes seen in normal eye **(K)**	**NORMAL VISION**	LGIS 50 mins	MCQs
3.	• Explain the pathology of the tumors involving eye including Basal Cell Carcinoma, Choroidal Melanoma, Squamous Cell Carcinoma and Retinoblastoma **(K)**	**BASAL CELL CARCINOMA, CHOROIDAL MELANOMA, SQUAMOUS CELL CARCINOMA & RETINIBLASTOMA**	LGIS 50 mins	MCQs
4.	• Diagnose Orbital cellulitis and Proptosis based on clinical features, pathophysiology and relevant investigations • Develop treatment plans for Cellulitis and Proptosis **(K)**	**ORBIT**	SGD (PBL) 50 mins	MCQs

S. No.	LEARNING OBJECTIVES By the end of Ophthalmology module students should be able to	CONTENT	LEARNING ACTIVITIES	ASSESSMENT
5.	• Diagnose the following on the basis clinical findings, pathology and their investigations: o Blepharitis o Sty oChalazion oTrichiasis oEntropion oEctropion oPtosis • Explain the differential diagnosis and treatment plans for the above-mentioned conditions Develop treatment plans for Basal cell, Squamous cell, Sebaceous carcinoma and Melanoma • Describe clinical features for diagnosis of Nevus and Papilloma **(K)**	**LIDS**	SGD (P B L) + Presentation 50 mins	MCQs
6.	• Explain common corneal pathologies • Diagnose the corneal trauma, infections, vitamin A deficiency and Keratoconus on the basis of clinical findings, pathophysiology and relevant investigations • Explain the differential diagnosis and treatment plans for the corneal trauma, infections, vitamin A deficiency and Keratoconus **(K)**	**CORNEA**	LGIS 50 mins	MCQs

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8.	• Diagnose Episcleritis and Scleritis on the basis of clinical findings • Discuss the relevant investigations, differential diagnosis, pathophysiology and treatment plans for Episcleritis **(K)**	**SCLERA**	SGD 50 mins	MCQs
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10.	• Discuss differential diagnosis for red eye along with their etiology, pathology, investigations and treatment plans. • Diagnose Uveitis on the basis of clinical features and relevant investigations. • Discuss the differential diagnosis and treatment plans for Uveitis. **(K)**	**UVEAL TRACT**	LGIS 50 mins + SGD 50 mins	MCQs
11.	• Classify cataract • Describe cataract due to systemic diseases • Explain the symptoms, signs, investigations and management plan for congenital cataract • Diagnose acquired cataract based on symptoms, signs, pathophysiology and investigation findings • Justify selection of treatment options for acquired cataract • Explain congenital cataract secondary to rubella **(K) (S) (A)**	**LENS**	LGIS 50 mins + Demonstration 90 min	MCQs + OSCE

S. No.	LEARNING OBJECTIVES By the end of Ophthalmology (Eye) module students should be able to:	CONTENT	LEARNING ACTIVITIES (Duration)	ASSESSMENT
12.	• Define Glaucoma • Classify glaucoma • Discuss the anatomy related to glaucoma • Discuss the etiology, pathophysiology, differential diagnosis and investigations for Glaucoma • Diagnose angle closure Glaucoma based on clinical findings • Discuss the treatment plans for angle closure glaucoma • Discuss the treatment plans for Glaucoma other than angle closure **(K)**	**GLAUCOMA**	LGIS 50 mins	MCQs
13.	• Examine the fundus with the help of ophthalmoscope • Explain the signs, symptoms investigations and principles of management for posterior vitreous hemorrhage and Rhegmatogenous Retinal Detachment (RRD) • Discuss the retinal vascular diseases including central retinal vein occlusion (CRVO) and Central retinal artery occlusion (CRVA) • Discuss the differential diagnosis, complications and treatment plans for CRVO/CRVA **(K)**	**VITREO-RETINA**	LGIS 50 mins + SGD (SKILL LAB + CBL) Presentation	MCQs MCQs

S. No.	LEARNING OBJECTIVES By the end of Ophthalmology module students should be able to:	CONTENT	LEAING ACTIVIRNTIES	ASSESSMENT
	• Discuss the clinical presentations, investigations and treatment options for Retinitis Pigmentosa, Retinoblastoma and Age-Related Macular Degeneration (ARMD) • Discuss thepathology and clinical sign and symptoms of retinopathy of prematurity (ROP) along with the relevant investigation • Discuss the complications and treatment plans for the ROP **(K) (S) (A)**	**RETINITIS PIGMENTOSA, RETINOBLASTOMA AND AGE RELATED MACULAR**	LGIS 50 mins + SGD 50 mins	MCQs MCQs + OSCE
14.	• Discuss the differential diagnosis, pathology, provisional diagnosis, and investigations for Papilledema, Optic Neuritis and Optic Atrophy • Formulate the treatment plans for Papilledema, Optic Neuritis and Optic Atrophy **(K)**	**OPTIC NERVE**	LGIS 50 mins	MCQs
15.	• Discuss the effects of lesions in the optic chiasma and visual pathway on visual field **(K)**	**VISUAL PATHWAY**	Short Group Problem Based Discussion 50 mins	MCQs

S. No.	LEARNING OBJECTIVES By the end of Ophthalmology	CONTENT AREA	LEARNING ACTIVITIES	ASSESSMENT
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17.	• Define Squint and Amblyopia • Discuss the relationship between squint and amblyopia • Discuss the clinical presentation of squint and amblyopia along with their differential diagnosis and relevant investigations • Discuss principles of management for these two conditions **(K)**	**SQUINT AND AMBLYOPIA**	SGD 50mins + Presentation 50 mins	MCQs
18.	• Define Emmetropia, Myopia, Hypermetropia, Astigmatism, Presbyopia, Aphakia, Pseudophakia and Anisometropia • Discuss the etiology and corrective measures for each type of error of refraction including the principals involved, use and procedure of pin hole test **(K) (S) (A)**	**ERRORS OF REFRACTION**	LGIS 50 mins + Demonstrations 90 mins	MCQs + OSCE

S. No.	LEARNING OBJECTIVES By the end of Ophthalmology module students should be able to:	CONTENT	LEARNING ACTIVITIES (Duration)	ASSESSMENT
19.	• Discuss the effects of diabetes mellitus and hypertension eye and vision • Based on data provided, diagnose diabetic and hypertensive retinopathy • Discuss the pathophysiology of diabetic and hypertensive retinopathy • Describe principles of management for the two above mentioned conditions • Based on data provided, justify diagnosis, investigations and treatment plan for ocular conditions due to vitamin A deficiency • Discuss the effects of abnormal thyroid hormone levels on eye and vision • Diagnosis, investigations and treatment plan for conditions due to abnormal thyroid hormone levels (e.g. Grave's disease, Thyroid Ophthalmopathy) **(K) (S) (A)**	**SYSTEMIC DISEASES**	LGIS 50 mins	MCQs + OSCE
20.	• Discuss the six most common causes of blindness worldwide according to WHIO criteria • Discuss etiology, preventive measures and principles of management for blindness **(K)**	**BLINDNESS**	LGIS 50 mins	MCQs

Problem based learning (PBL) / Case based learning (CBL)

- ___ will be conducted every week
- CPC will be conducted each week

Learning Tool	Theme	Case Scenario	Subjects integrated in CPC
CPC1			Learning objectives will be from All clinical specialties
CPC 2			Learning objectives will be from All clinical specialties

Learning Resources:

The students will be guided to look for the relevant study material from the books, internet guided by each discipline in the study guide in their relevant section in addition to other reference books from the college library

Medical Education Lectures / Workshop

S.NO	Learning Objectives (domain) At the end of session, student will be able to:	Content Areas	Teaching Activity (Duration)	Assessment
1.	**How to do Educational Planning (S)**	Educational Planning	Workshop 3 Hours	–
2.	Writing Educational Objectives (How, What, Why) **(S)**	Educational Objectives	Workshop 3 Hours	
3.	Develop OSPE/OSCE stations **(S)**	OSPE/OSCE Development	Workshop 3 Hours	–
4.	How to do students engagement and Teaching methodologies (S)	Student Engagement & Teaching Methodologies	Workshop 3 Hours	
5.	Prepare TOS and Assessment Planning (S)	TOS and Assessment planning	Workshop 3 Hours	

Learning resource: How to succeed at medical school, Dason Evans & Jo Brown, 2009

TIME TABLE

Jinnah Medical & Dental College

MBBS 4 (Batch 21)

EYE/ENT- ORTHOPEDICS MODULE –

WEEK 1

Venue: Monday/Tuesday – JMDC LH103 (Group 1+2 Mon; Group 3+4 Tues) Wed-Saturday – JMCH LH 1 + LH 2

	8:30–9:20	9:25-10:15		10:45-11:35		12:00-1:30		1:30-3:00
MON March 1 Group 1 + 2	ANATOMY / EMBRYOLOGY Bone, Cartilage, Joint Development & Histogenesis	PHYSIOLOGY Parathyroid Hormone, Vitamin D, Calcitonin & Bone Metabolism	TEA BREAK	ANATOMY EYE Revision on Anatomy of Eye & Orbit		GROUP 1-Physiology Practical- ENT/EYE (Dry Lab) GROUP 2-Physiology Practical- ENT/EYE (Wet Lab)		RESEARCH MODULE Project Work
TUES March 2 Group 3 + 4	PHYSIOLOGY Classification & Role of Ca++, PO_4, Vit D	ANATOMY / EMBRYOLOGY Long Bone Blood/Nerve Supply & Ossification		PHYSIOLOGY Bone Modelling & Remodelling		GROUP 3-Physiology Practical- ENT/EYE (Dry Lab) GROUP 4-Physiology Practical- ENT/EYE (Wet Lab)		RESEARCH MODULE Project Work
	9:00-9:50	9:55-10:45		11:00-1:00		1:15-2:30		2:30-3:10
WED Mar 3	CLINICAL PATHOLOGICAL CONFERENCE Introduction	ENT Surgical Ant, Physio, Sx & Congenital Ear Dz		CLINICAL WORK		PBL Ortho 1.1 1-Surgery-Surgery SR 2-Ob/Gyn-Ob/Gyn SR 3-Medicine-Medicine SR 4-Pediatrics-Peds SR		SELF STUDY
THURS Mar 4	ORTHOPEDICS Congenital & Developmental Anomalies	MEDICINE Parathyroid Conditions		CLINICAL WORK		PBL Ortho 1.2 1-Surgery-Surgery SR 2-Ob/Gyn-Ob/Gyn SR 3-Medicine-Medicine SR 4-Pediatrics-Peds SR		SELF STUDY
FRI Mar 5	MEDICINE Osteoporosis Osteomalacia	COMMUNITY MEDICINE Natural Disasters Management	TEA BREAK	CLINICAL WORK		SELF STUDY		
SAT Mar 6	MEDICINE Osteoarthritis	EYE Lid Abnormalities		CLINICAL WORK		1:15-2:00 SURGERY / MEDICINE Post PBL Session 1.3		SELF STUDY

END Of Clinical Posting

OPTHOLMOLOGY TEST THEORY

OPTHOLMOLOGY TEST OSCE